Standards and Interoperability

Technical Challenges from a Clinical View

NIST/ATA/NLM Workshop

13 December 2006

Mark B. Horton, OD, MD

Indian Health Service

Standards and Interoperability

Goals

Standards and Interoperability

Goals

- Target performance to clinical needs and standards of care
- Standardized performance at the highest level of quality
- Evidence based outcome
- Scalable
- Sustainable
- Cost effective

End User Diversity

- Technical Expertise
- Clinical Telemedicine Expertise

Proprietary Interests

- End user developer
  - I’ve got a program/idea and your standards don’t fit
  - Standards? Standards??!!

    I don’t need no stinkin’ standards!

Proprietary Interests

- Vendor
  - I’ve got a product that users are buying and your standards don’t fit
  - I’ve got a product that users are buying and it connects to (certain) EHR/acquisition modalities already (for now)
  - I’ve got a product with a large installed user base so it is already a de facto standard; everyone should build to me

Broad Buy-In

- Education
- Professional association support
- Trade support
- Regulatory support
- 3rd party payer support
- Vendor Critical Mass

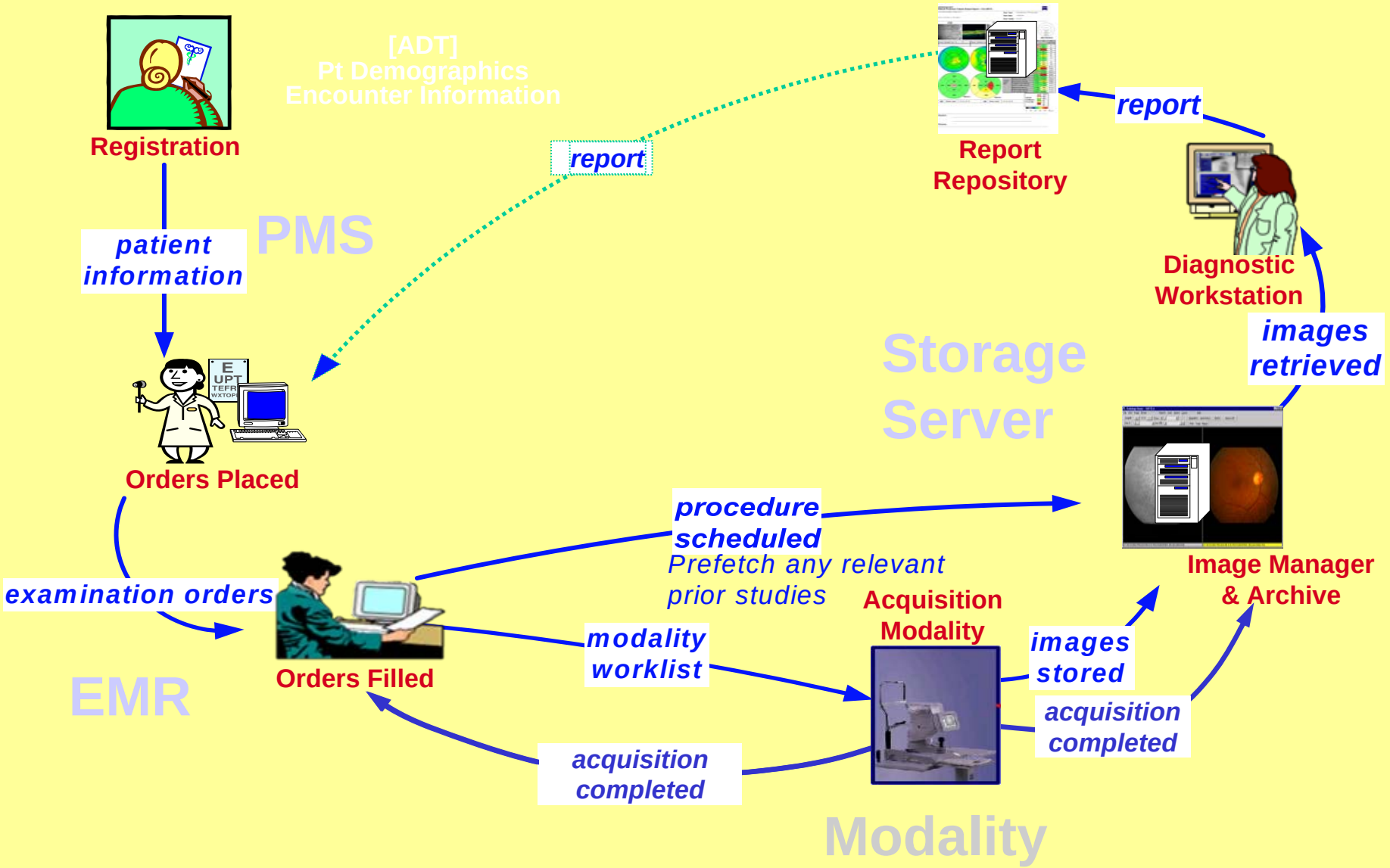
Clinical Use Cases in Search of Technical Solutions

- **Interoperability**

  Automatic transaction between actors (MWL's, structured reports, charge posting, etc)

  - **HIS**
  - **EHR**
  - **PMS**
  - **Acquisition Modalities**

Interoperability- Scheduled Workflow



Clinical Use Cases in Search of Technical Solutions

- **Interoperability**
  - **Scheduled workflow**
  - **Patient Information Reconciliation- errors and unscheduled studies**
  - **Enterprise user authentication and basic security**
  - **Presentation of group procedures**

Clinical Use Cases in Search of Technical Solutions

- **Interoperability**
  - Consistent presentation of images
  - Post-processing workflow
  - Reporting workflow
  - Evidence documents
  - Charge posting
  - Etc.

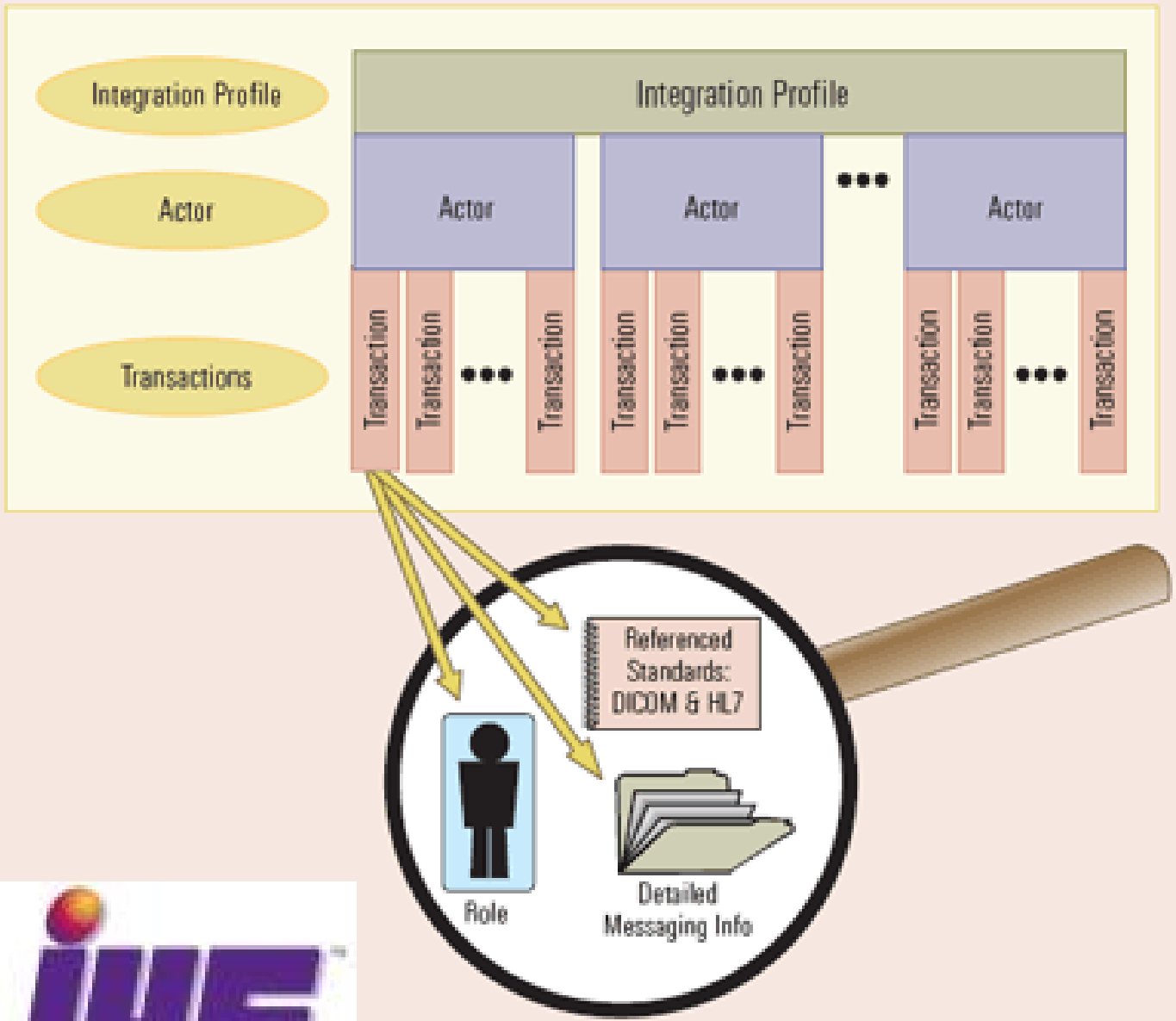
Clinical Use Cases in Search of Technical Solutions

- Export of Data
  - Media
  - Viewing platforms
  - Evidence documents
    - Raw data
    - Image (paper on a computer)

Interoperability Solutions

- Efficient access to all relevant information
- Standards
  - HL7, DICOM, SNOMED
- Standards not enough
  - Technical framework of information sharing
  - Coordinated use of established standards to address specific clinical needs

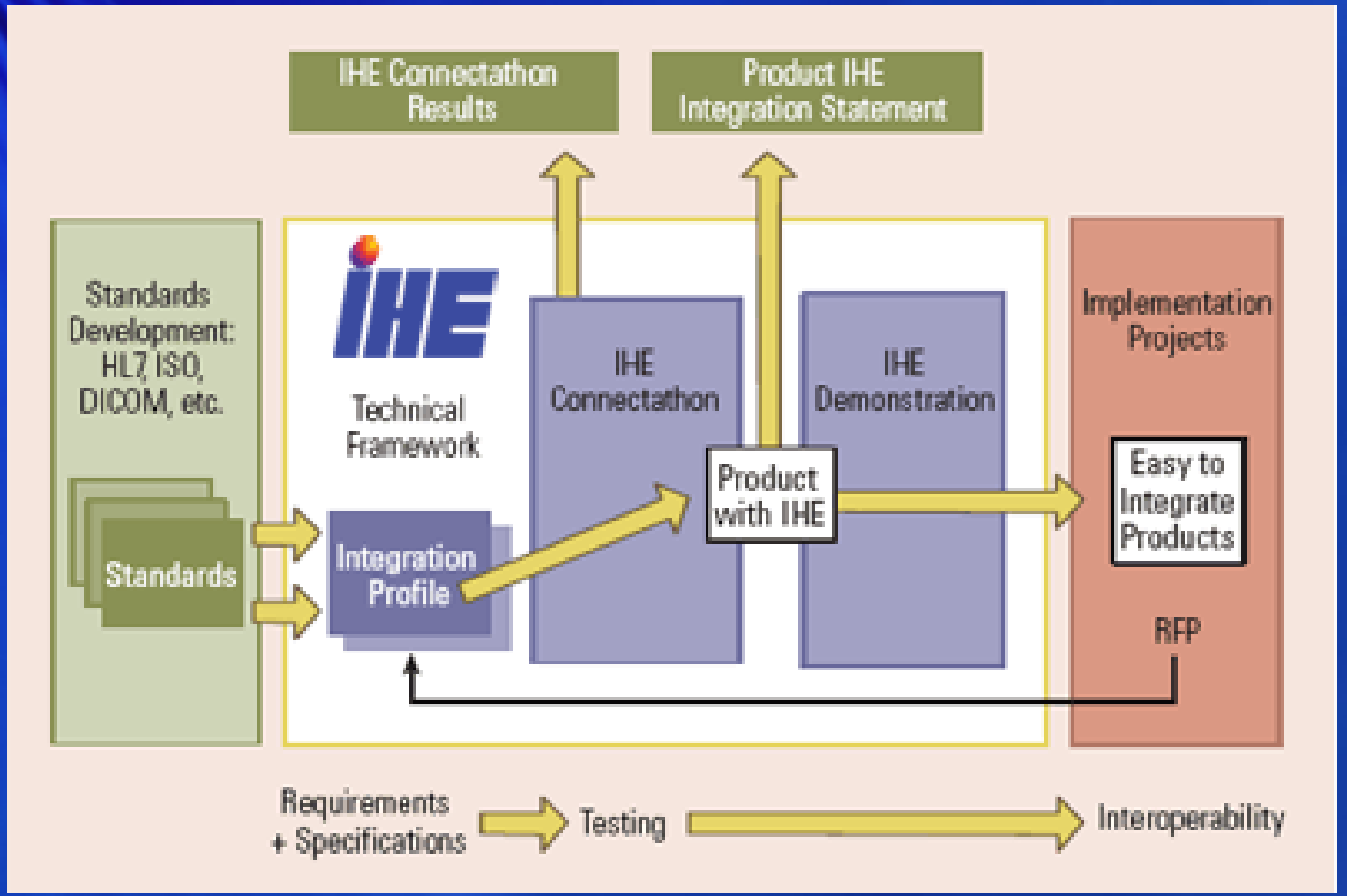
Organization of the Technical Framework



Interoperability Solutions

- Collaborative development
  - Health care professions, industry
- Vetted solutions
- Vendor adoption
- Documentation
  - Conformance statements- vendors
  - Certification/accreditation- external body

Interoperability Solutions



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Telehealth Practice Recommendations for Diabetic Retinopathy

Lessons Learned

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Director, IHS/JVN Teleophthalmology Program

ATA Telehealth Practice Recommendations On Teleophthalmology for Diabetic Retinopathy

- **Collaborative effort hosted by NIST**
  - 1st workshop March 03, NIST Headquarters
  - May 03, July 03
  - Three authoring teams and editorial team
- **Placed on ATA Website for review ~ Nov 03**

Telehealth Practice Recommendations On Teleophthalmology for Diabetic Retinopathy

- **Published on ATA Website, May 04**
  http://www.atmeda.org/ICOT/diabeticretionpathy.FINAL.pdf
- Telemedicine Journal and e-Health, Dec 2004, Vol. 10, No. 4: 469-482

Telehealth- Diabetic Retinopathy

- Definition of the Problem
- Mission/Vision/Goals/Guiding Principles
- Approach
- Successes and failures
- Lessons Learned

Diabetic Retinopathy

Definition of the Problem

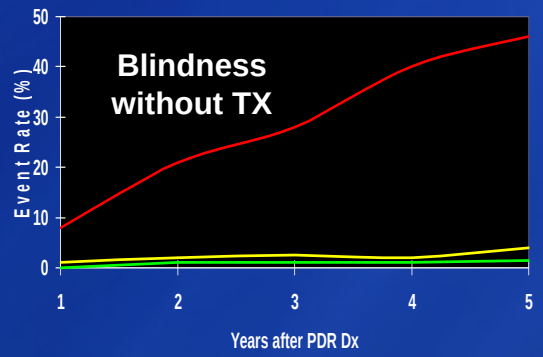
- **Diabetic retinopathy is the leading cause of new blindness in adults**
- **Blindness from DR is preventable with timely Dx and Tx**

Diabetic Retinopathy

Definition of the Problem

<u>30 years of promulgation of the standards</u>

- **50% of population fails standard of care**
- **40%-60% of population fail to obtain need tx in a timely fashion**



Telehealth- Diabetic Retinopathy

- Mission- increase adherence to standards of care for DR
- Vision- ocular Thealth can be an integral component of primary care for DM

Telehealth- Diabetic Retinopathy

- Goal
  - Improve access and decrease cost
  - Reduce vision loss
  - Promote Thealth
- Guiding Principles- safe and effective care

Telehealth- Diabetic Retinopathy

Approach

- Four teams
  - Clinical
  - Technical
  - Business/operational
  - Editorial
- Evidence based
- Outcome oriented

Telehealth- Diabetic Retinopathy

Lessons Learned- Successes

- M/V/G/GP
- Evidence/outcome

} Strict adherence is imperative

- Standardization
- Validation- categories to meet various clinical needs
- Cookbook utility

Telehealth- Diabetic Retinopathy

Lessons Learned- failure

- Appendices for specific direction
  - Regulatory: JCAHO, HIPAA
  - Credentialing & Privileging
  - Bylaws
- Certification/accreditation

Telehealth- Diabetic Retinopathy

Lessons Learned

- Be prepared to defend every item
- Be responsive to public input but remember M/V/G/GP
- Consider existing methods for each item
- Anticipate future methods and emerging technology
- Living document

Telehealth Practice Recommendations for Diabetic Retinopathy

Lessons Learned

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